X-Plane 11
Fokker Dr.1

Pilot's Operating Manual

Version 0.1c

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Jemma Studios

Disclaimer

Information contained in this document has been collected from multiple resources, none of which has been checked for accuracy in any meaningful way. There is also a bunch of stuff I simply made up. Don't expect much, and certainly don't use it for anything other than entertainment within the X-Plane flight simulator, because if you use it for real life flying, well, frankly, you deserve to die.

Distribution

Background: The Fokker Dr.1

Made famous by Manfred Von Richthoffen (The Red Baron), the Fokker Dr.1 was developed by Fokker-Flugzeugwerke in 1917 in answer to the British Sopwith Camel. It was first tested in the late summer of 1917 and Richthoffen first flew it in combat in the fall of 1917. It was agile, climbed unlike anything else in the air, and proved deadly to British aviators.

The aircraft is fun to fly and hell to taxi. This aircraft honors the original feel of the WW1 fighter in that it has no brakes, a solid wood tail skid, and horrible visibility on the ground. On the other hand, she leaps into the air and is snappy to fly. Landing is also very challenging with no brakes so be sure to be near stall speed when you touch down unless you like to roll off the end of runways.

It is virtually required that you only operate this aircraft on a grass field, and only into the wind on landings. The allowable crosswind component is <10kts.

Fokker Dr.1 Specifications

Engine:

Model:	Oberursel Ur.11 9-cylinder air-cooled rotary piston engine
Power:	82 kW (110 hp)
Propeller:	2-blade fixed-pitch wooden propeller

Fuel:

Capacity:	72 liters (18 gallons)
Fuel Consumption:	46 liters/hour (12 gallons/hour)

Armament:

Weapons:	Two – Spandau LMG 08/15 machine guns
Ammunition:	1000 rounds belt fed 7.92x57 Mauser (500 rounds each gun)
Rate of Fire:	450 rounds/minute (each gun)

Performance:

Max speed:	not sure no airspeed indicator installed
Stall speed:	pretty slow

Installation

Drop the Jemma Studios folder into your X-Plane 11/Aircraft folder. The Dr1 will appear in your "Experimental" section of your Flight Configuration screen.

I recommend creating a new profile and mapping the following commands to your Joystick or Keyboard Assignments:

Flight Controls-Weapons-Fire guns

Dr1-command-Actuates the Schnirpsknopf (blip switch)

You may also map the following commands (though honestly it's easier to screen click these)

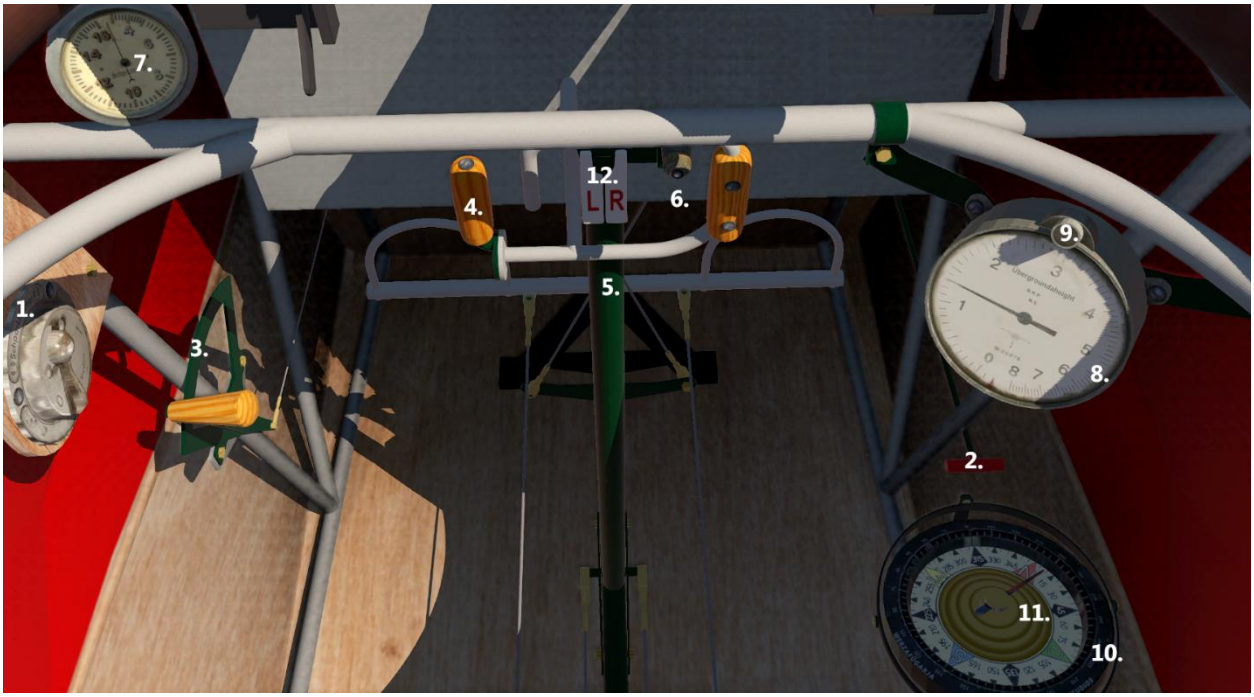
Dr1-guns-Toggle the cocking assist lever

Dr1-guns-Cycles bolt lever

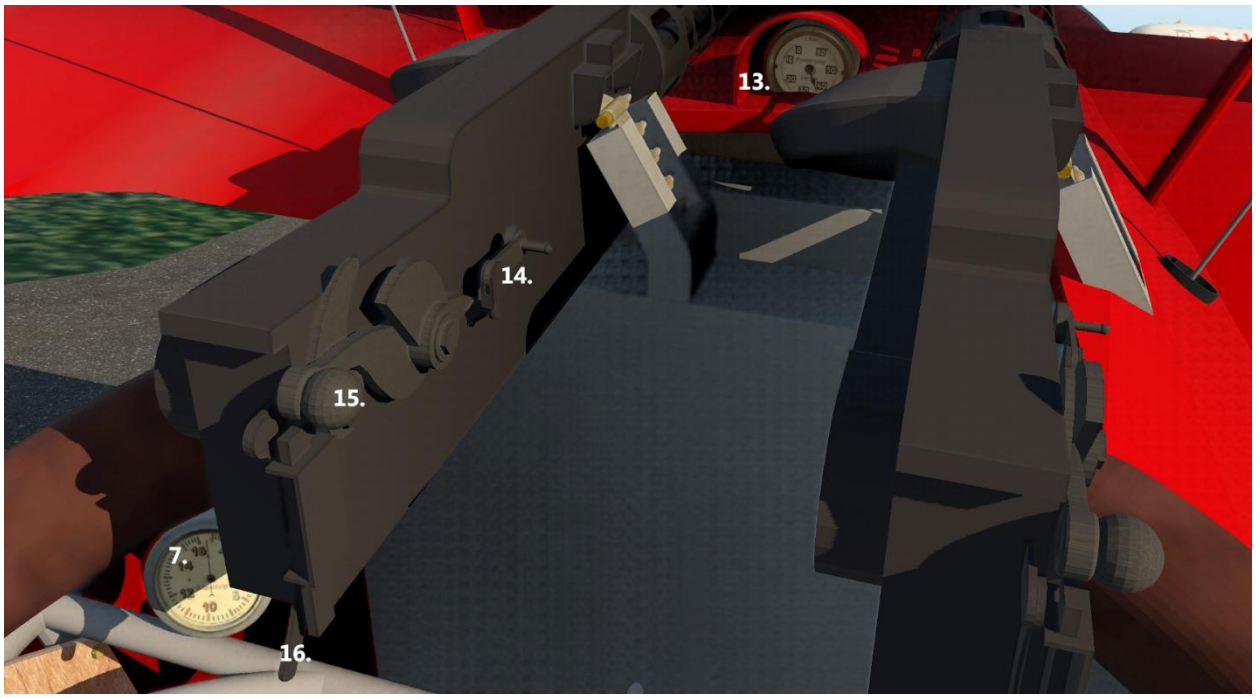
Dr1-guns-Moves the safety lever up

Dr1-guns-Moves the safety lever down

Panel & Instruments



1. **Schparkmacher** (Magneto Switch)
2. **Firewasserswitchen**. (Fuel Switch)
3. **Benzinegamixer (Mixture Lever)**
4. **Firewassergozinter** (Throttle Lever)
5. **Schteeringschtick** (Yoke)
6. **Schnirpsknopf** (Schnirpsknopf). The blip button is used to control speed during taxi and landing. Holding it in cuts off the fuel supply which (obviously) slows the motor. Be sure to let go before the RPM's drop much below 200rpm to be sure it restarts. (As soon as the prop is slow enough to see) If it doesn't refire, nose down to get the prop moving again or get some one to spin the prop again.
7. **Schpinanzeige** (Tachometer) Pretty sure this gauge reads in RPM.
8. **Ubergroundaheight** (Altimeter) in kilometers. (I can't use it this way either so I ignore it)
9. **Kollsmanknopf** (Kollsman Knob). No barometric pressure display on this aircraft. Adjust knob to get close to the field elevation. If you don't know the field elevation, ask someone nearby.
10. **Werzafügarja** (Compass). The red magnetic north arrow (it has an "N" on it) points to magnetic north. (Might be important if there is a quiz later)
11. **Werzafügarjazeiger** (Compass Setting Needle). Spin this to point at the heading you want to fly, then turn the aircraft so the North arrow is under the needle. (It really works)
12. **Noisenmachers** (Machine gun triggers). Used to make lots of noise, if the guns are armed properly.



13. **Firewasseranzeige** (Fuel gauge). In liters. Divide by 4 for gallons. (Or just land before it gets close to zero)
14. **Kanonierhebel** (Arming assist lever) used to force the bolt action to advance the ammo belt as well as cock the weapon.
15. **Gewehrgekocher** (Arming bolt) Used to manually operate the action
16. **Zafetyhebel** (Safety Lever) Moving this up takes the bolt out of battery so the weapon cannot fire.

17. **Windmacher** (Propeller). You'll be grabbing the prop to get it going (follow the start up procedure)

Note: An anemometer was delivered with the aircraft, but removed by most pilots. It was mounted on the lateral wing struts to keep it out of the propwash. It's more fun to fly, listening to the wind for speed clues, so it's not available at this time.

Start Up Procedure

Word of advice. This aircraft has no brakes and high idle, even on grass it may start moving as soon as the engine starts.

[ ] Check control surfaces operate freely
[ ] Set KOLLSMANKNOPF (9) to field elevation
[ ] Set BENZINEGAMIXER (3) to FULL (push handle in)
[ ] Set FIREWASSERGOZINTER (4) to IDLE
[ ] Set SCHPARKMACHER (1) to position 1
[ ] Set FIREWASSERSWITCHEN (2) to ON (vertical position)
[ ] Check SCHNIRPSKNOPF (9) is not depressed
[ ] Switch to exterior view and hold the WINDMACHER (17) to start

Taxi Procedure

[ ] Say a prayer
[ ] Use only enough FIREWASSERGOZINTER(4) to get it moving, otherwise IDLE
[ ] On long taxi's use the SCHNIRPSKNOPF (6) intermittently to cut fuel, but release it to allow fuel to flow again before the prop stops

Takeoff Procedure

[ ] Slight backpressure on SCHTEERING SCHTICHEN (5)
[ ] Set FIREWASSERGOZINTER (4) to FULL
[ ] When tail starts to lift, release SCHTEERING SCHTICHEN backpressure
[ ] Yell, "Wow, that thing took off in no time!"

Cruise/Climb Procedure

[ ] Don't hit anything
[ ] Adjust BENZINEGAMIXER (3) to max RPM

Descent Procedure

[ ] Push forward on the SCHTEERING SCHTICHEN (5)

Landing Procedure

Word of advice. The engine idles at 700rpm which is makes the aircraft fly way too fast to land in a reasonable distance. You'll want the aircraft as slow as possible, so keep your glideslope shallow. You'll also find that this is where the SCHNIRPSKNOPF comes in.

[ ] Set BENZINEGAMIXER (3) to FULL

[ ] Set FIREWASSERGOZINTER (4) to IDLE
[ ] Over the threshold cut fuel with the SCHNIRPSKNOPF (9).
[ ] After touch down hold neutral SCHTEERING SCHTICHEN (5) until tail skid touches down
[ ] Apply SCHTEERING SCHTICHEN (5) backpressure with continued added, gentle pressure to dig the tail skid in (which is the only braking you have)
[ ] Apply **gentle** counter RUDDER to try to keep it straight. (Axe handles at the end of the wings are for the inevitable ground loop.

Shut down procedure

[ ] Set SCHNIRPSKNOPF (9) to CUT OFF
[ ] Set SCHPARKMACHER (7) to position 0
[ ] Set FIREWASSERSWITCHEN (2) to OFF (horizontal position)

Firing Weapons

[ ] Set KANONIERHEBEL (14) to rear position (rests against bolt cam)
[ ] Push GEWEHRGEKOCHER (15) forward to feed round into chamber
[ ] Push GEWEHRGEKOCHER (15) forward once again to chamber the round
The weapon is now loaded.
[ ] Push the ZAFETYZHEBEL (16) up prior to starting engines.
The weapon will not fire if the prop is not spinning.
TO FIRE:
[ ] Check that the WINDMACHER is spinning
[ ] Pull the ZAFETYZHEBEL (16) down to put the bolt in battery
[ ] Depress the NOISENMACHERS (12) to fire.

Development To-do

- ~~Develop 3D cockpit~~
- ~~Mappable Schnirpsknopf~~
- Optimize mesh for mid wing and fuselage
- Add additional 3D details on exterior (support wires, etc.)
- Create additional liveries
- Get Manfred to look where he is going
- ~~Model machine guns~~
- Improve POH
- Develop CSL model
- Develop VATSIM/POSCON version with “handheld” radio and “portable” mode c transponder.
- Remodel rotary engine to look closer to original and also make it spin (including semi-transparent spin disk for >150rpm)
- Add oil consumption simulation
- ~~Add fuel switch~~

- Add manual magneto (why the hell does this aircraft need a magneto switch and a manual magneto?)
- Install FMOD sounds

Change Log

- Version 0.1a:
    - Modified language to indicate Schnirpsknopf is now a correctly modeled momentary switch.
- Version 0.1b 2020-04-15
    - Changed all references for SCHTICK to SCHTICK
    - Added language regarding schnirpsknopf.lua script.
    - Updated Development To-Do
- Version 0.1c [NOT YET DISTRIBUTED]
    - Updated Development To-DO
    - Rewrote/illustrated for new 3D cockpit and weapons.